



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/894,199

06/27/2001

John J. Williams JR.

97406

7079

26327

7590

09/05/2006

THE LAW OFFICE OF KIRK D. WILLIAMS
PO BOX 61538
DENVER, CO 80206-8538

EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

57

Office Action Summary	Application No.	Applicant(s)	
	09/894,199	WILLIAMS ET AL.	
	Examiner	Art Unit	
	Anh-Vu H. Ly	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-14 and 18-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 47-49 is/are allowed.
- 6) ☒ Claim(s) 1, 5-8, 10-14, 18, 22-26, 30-34, 38-46 and 53-61 is/are rejected.
- 7) ☒ Claim(s) 2-4, 19-21, 27-29, 35-37, 50-52 and 54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 22, 2006 has been entered.

Claim Objections

2. Claims 50-52 and 54 are objected to because of the following informalities:

With respect to claim 50, in lines 4-5, replace "between the a start" with --between a start--.

With respect to claim 54, in line 7, replace "the determined difference" with --the determined timing difference--.

Claims 51-52 are automatically objected to as they depend upon objected independent claim 50.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-14, 42-46, and 55-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 10 and 42, limitation "the predetermined threshold" recited in lines 6-7 lacks antecedent basis.

With respect to claims 13 and 45, in lines 1-2, "decreasing the initial rate includes raising the initial rate to a one-half power" is unclear. The recitation "raising", as considered by examiner, is equivalent to increasing; therefore, decreasing the initial rate by "increasing" a one-half power is unclear.

Claims 11-12, 14, 43-44, 46, and 55-57 are rejected as they depend upon rejected independent claims 10 and 41.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5-7, 18, 22-24, 26, 30-32, 34, 38-40, and 58-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Donoghue (US Patent No. 6,882,622 B1).

With respect to claims 1, 26, 34, 58, 60, and 61, Donoghue discloses a method (Fig. 6) comprising:

Art Unit: 2616

receiving a start flow control signal and receiving a stop flow control signal (col. 5, lines 30-33 and Fig. 5 discloses that a transition between XON and XOFF represents the sending of an XOFF control frame and the reverse transition represents the sending of an XON control frame);

determining a quantitative time duration between said receipt of the start flow control signal and said receipt of the stop flow control signal (col. 4, lines 51-53 and Fig. 3, setting the interval between the start of the XON frame and the start of the next XOFF frame is shown at 35 and col. 5, lines 61-67, the time period between the pause packets and the intervals between the sending of an XOFF control frame and XON frame and vice versa may be different and may be set into the processing block by means of control inputs 35 and 36. These may be regarded as ON and OFF times. Herein, the time duration between the XON and XOFF frames is determined); and

determining an initiate rate based at least in part on said quantitative time duration (col. 6, lines 1-3, at time t_5 the first XON frame arrives at the source so that the source can transmit intermittently at the reduced data rate).

With respect to claims 5, 22, 30, and 38, Donoghue discloses setting a current rate to the initial rate and increasing the current rate (Fig. 5, rate at t_6 - t_7).

With respect to claims 6, 23, 31, and 39, Donoghue discloses that wherein said increasing the current rate includes doubling a value of the current rate (Fig. 5, rate at t_7 - t_8).

With respect to claims 7, 24, 32, and 40, Donoghue discloses comparing the current rate to a maximum rate and setting the current rate to the maximum rate (Fig. 5, rate at t8).

With respect to claims 18 and 59, Donoghue discloses an apparatus configured to adaptively control rates (Fig. 3), the apparatus comprising:

a rate controller (Fig. 5, transmit status of source); and

a timing mechanism (col. 4, lines 25-28, a source will include a timer which is set on receiving a pause frame and the source may recommence transmission of packets);

wherein the rate controller is configured to receive a start flow control signal and a stop flow control signal (col. 5, lines 30-33 and Fig. 5 discloses that a transition between XON and XOFF represents the sending of an XOFF control frame and the reverse transition represents the sending of an XON control frame) to determine a quantitative time duration between said receipt of the start flow control signal and said receipt of the stop flow control signal (col. 4, lines 51-53 and Fig. 3, setting the interval between the start of the XON frame and the start of the next XOFF frame is shown at 35 and col. 5, lines 61-67, the time period between the pause packets and the intervals between the sending of an XOFF control frame and XON frame and vice versa may be different and may be set into the processing block by means of control inputs 35 and 36. These may be regarded as ON and OFF times. Herein, the time duration between the XON and XOFF frames is determined); and to determine an initiate rate based at least in part on said quantitative time duration (col. 6, lines 1-3, at time t5 the first XON frame arrives at the source so that the source can transmit intermittently at the reduced data rate).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 25, 33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donoghue (US Patent No. 6,882,622 B1) in view of Galand et al (US Patent No. 6,424,624 B1). Hereinafter, referred to as Donoghue and Galand.

With respect to claims 8, 25, 33, and 41, Donoghue discloses a flow control system for network devices (Fig. 6). Donoghue does not disclose generating a set of tokens based on the value of the current rate. Galand discloses that tokens are generated according to the current rate (Fig. 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include generating tokens based on current rate in Donoghue's system, as suggested by Galand, to control and prevent congestions.

6. Claims 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donoghue (US Patent No. 6,882,622 B1) in view of Galand et al (US Patent No. 6,424,624 B1). Hereinafter, referred to as Donoghue and Galand.

With respect to claim 53, Donoghue discloses a method (Fig. 6) comprising:
determining a timing difference between a start flow control signal and a stop flow control signal (col. 4, lines 51-53 and Fig. 3, setting the interval between the start of the XON

Art Unit: 2616

frame and the start of the next XOFF frame is shown at 35 and col. 5, lines 61-67, the time period between the pause packets and the intervals between the sending of an XOFF control frame and XON frame and vice versa may be different and may be set into the processing block by means of control inputs 35 and 36. These may be regarded as ON and OFF times. Herein, the time duration between the XON and XOFF frames is determined); and

determining a rate for sending information based at least in part on the determined timing difference (col. 6, lines 1-3, at time t_5 the first XON frame arrives at the source so that the source can transmit intermittently at the reduced data rate).

Donoghue does not disclose generating a set of tokens based on a value of the rate for sending information. Galand discloses that tokens are generated according to the current rate (Fig. 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include generating tokens based on current rate in Donoghue's system, as suggested by Galand, to control and prevent congestions.

With respect to claim 54, Donoghue discloses an apparatus (Fig. 3) comprising:
a rate controller (Fig. 5, transmit status of source); and
a timing mechanism (col. 4, lines 25-28, a source will include a timer which is set on receiving a pause frame and the source may recommence transmission of packets);

wherein the rate controller is configured to receive a start flow control signal and a stop flow control signal (col. 5, lines 30-33 and Fig. 5 discloses that a transition between XON and XOFF represents the sending of an XOFF control frame and the reverse transition represents the sending of an XON control frame) to determine a timing difference between the start flow

Art Unit: 2616

control signal and the stop flow control signal (col. 4, lines 51-53 and Fig. 3, setting the interval between the start of the XON frame and the start of the next XOFF frame is shown at 35 and col. 5, lines 61-67, the time period between the pause packets and the intervals between the sending of an XOFF control frame and XON frame and vice versa may be different and may be set into the processing block by means of control inputs 35 and 36. These may be regarded as ON and OFF times. Herein, the time duration between the XON and XOFF frames is determined); and to determine a rate for sending information based at least in part on the determined timing difference (col. 6, lines 1-3, at time t_5 the first XON frame arrives at the source so that the source can transmit intermittently at the reduced data rate).

Donoghue does not disclose generating a set of tokens based on a value of the rate for sending information. Galand discloses that tokens are generated according to the current rate (Fig. 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include generating tokens based on current rate in Donoghue's system, as suggested by Galand, to control and prevent congestions.

Allowable Subject Matter

7. Claims 2-4, 19-21, 27-29, and 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 47-49 are allowed. Claims 50-52 contain the allowable subject matter but are currently objected to for minor informalities.

The following is a statement of reasons for the indication of allowable subject matter:
The prior art does not teach or fairly suggest determining the initial rate according to a timing

difference between the start and stop flow control signal and then adjusting that initial rate based at least in part on the result of comparing that timing difference to a predetermined threshold, as specified in independent claims 47 and 50.

Response to Arguments

9. Applicant's arguments filed June 22, 2006 have been fully considered but they are not persuasive.

Applicant argues in page 15 that the prior art does not teach or suggest determining the initial rate based at least in part on the quantitative time duration between two events. Examiner respectfully disagrees. Donoghue discloses (col. 4, lines 51-53; col. 5, lines 61-67 and Fig. 3) setting the interval between the start of the XON frame and the start of the next XOFF frame is shown at 35. Further, the time period between the pause packets and the intervals between the sending of an XOFF control frame and XON frame and vice versa may be different and may be set into the processing block by means of control inputs 35 and 36. These may be regarded as ON and OFF times. (Herein, the time interval or the time period between the XON and XOFF frames is the quantitative time duration). Further, Donoghue discloses in Fig. 5 that the rate of the transmit source is adjusted according to different time intervals of the received XON and XOFF frames.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawasaki et al (US Patent No. 6,965,566 B2) discloses packet flow control apparatus.

Art Unit: 2616

Paul et al (US Patent No. 7,042,842 B2) discloses tracking congestion status of destination ports.

Averbuch et al (US Patent No. 6,192,029 B1) discloses method and apparatus for performing flow control in a wireless communication system.

Turner et al (US Patent No. 7,012,889 B1) discloses method and apparatus for controlling input rates within a packet switching system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER 8/3/02